Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1. (Currently Amended) A process for producing a thin film of an I-III-VI_2, compound of an element from each of Groups ~~IB and IIIB~~ I and III of the Periodic Table with two atoms of a Group ~~VIB~~ VI element, comprising:

(i) forming a thin film of an III-VI compound on a substrate by Metal Organic Chemical Vapor Deposition employing a single precursor containing elements of Groups III and VI;

(ii) forming a thin film of an I_2-VI compound on the thin film of the III-VI compound by Metal Organic Chemical Vapor Deposition employing a precursor containing at least one metal of Group I, ~~thereby forming a compound of the elements from Groups I, III and VI which is symbolized by the formula: I-III-VI_2~~; and

(iii) forming a thin film of the I-III-VI_2 compound on the thin film of the I_2-VI compound by Metal Organic Chemical Vapor Deposition employing a single precursor containing elements of Groups III and VI.

Claim 2. (Currently Amended) The process as set forth in claim 1, further comprising:

(iv) forming a thin film of an I-III-VI_2 compound on the thin film of the I-III-VI_2 compound formed in ~~the third step~~ (iii) by Metal Organic Chemical Vapor Deposition employing a single precursor containing elements of Groups III and VI, and wherein

elements of Group III employed in (iv) are different from those employed in ~~steps~~ (i) and (iii).

Claim 3. (Currently Amended) The process as set forth in claim 1, further comprising:

(iv) forming a thin film of an I-III-VI_2 compound on the thin film of the I-III-VI_2 compound formed in ~~the third step~~ (III) by Metal Organic Chemical Vapor Deposition employing a single precursor containing elements of Groups III and VI, and wherein elements of Group VI employed in (iv) are different from those employed in ~~steps~~ (i) and (iii).

Claim 4. (Currently Amended) The process as set forth in any one of claims 1 through 3, wherein the precursors of ~~steps~~ (i) and (ii) are $[Me_2In\text{-}(\mu SeMe)]_2$.

Claim 5. (Currently Amended) The process as set forth in any one of claims 1 through 3, wherein the precursor employed in ~~step~~ (ii) is (hfac)Cu(DMB).

Claim 6. (Currently Amended) The process as set forth in claim 2, wherein the precursor of ~~step~~ (iv) is $[Me_2Ga\text{-}(\mu SeMe)]_2$.

Claim 7. (Currently Amended) The process as set forth in claim 2, wherein the thin film of a compound symbolized by the formula: Group I-Group III-Group VI_2 is selected

from the group consisting of $CuIn_{1-x}Ga_xSe_2$, $CuIn_{1-x}Al_xSe_2$, $CuGa_{1-x}Al_xSe_2$, $AgIn_{1-x}Ga_xSe_2$, $AgIn_{1-x}Al_xSe_2$ and $AgIn_{1-x}Ga_xSe_2$, wherein x ranges from 0 to 1.

Claim 8. (Original) The process as set forth in claim 3, wherein the thin film of an I-III-VI_2 compound is selected from the group consisting of $CuIn(Se,S)_2$, $CuGa(Se,S)_2$, $AgIn(Se,S)_2$, $AgGa(Se,S)_2$, $CuIn(Se,Te)_2$, $CuGa(Se,Te)_2$, $AgIn(Se,Te)_2$, $AgGa(Se,Te)_2$, $CuIn(S,Te)_2$, $CuGa(S,Te)_2$, $AgIn(S,Te)_2$ and $AgGa(S,Te)_2$.

Claim 9. (Previously Presented) A process for producing an absorption layer for a solar cell, comprising:

forming a thin film of InSe on a substrate by Metal Organic Chemical Vapor Deposition employing a single precursor containing In and Se;

forming a thin film of Cu_2Se on the InSe thin film by Metal Organic Chemical Vapor Deposition employing a Cu precursor; and

forming a thin film of $CuInSe_2$ on the Cu_2Se thin film by Metal Organic Chemical Vapor Deposition employing a single precursor containing In and Se.

Claim 10. (Currently Amended) The process as set forth in claim 9, further comprising ~~the step of~~:

forming a thin film of $CuIn_{1-x}Ga_xSe_2$, wherein x ranges from 0 to 1, on the thin film of $CuInSe_2$ by Metal Organic Chemical Vapor Deposition employing a single precursor containing Ga and Se.